

SAM Station & SRM Status

"Station. Major data handling component that establishes continuous stream of data to the set of data consuming processes grouped by \"projects\". It queues , prioritizes , optimizes stream of data requests in a way that satisfies data access requirements both from storage element and user process element sides. Station also audits file usage by user processes so that data consumption history can be queried and inspected in the future. Stations may form a data network to share their respective resources."

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Problem & Motivation

- Station supports different storages via developed adapters working in conjunction with storage specific configurations.
- Adapters are specialized, requiring individual development and maintenance.
- More storage element alternatives desired by customers.
- Treatment plan: apply uniform interface, SRM, to each different storage element.

Evolving solution.

- Station slowly gives up its low level storage management functions in favor of existing implementations of the common protocol. SRM is a protocol of choice. It is especially convenient when it comes to distinction between data management functions and data access function that nicely embeded in SRM.
- Station development is focused on its high level resource management features. Such as :
- Storage element brokering : connect willing and able storage elements to build dataflow according to client requests.
- Resource sharing. Groups , accounting, load balancing between users.
- Better layering to help with "gridifying" SAM station.

Status

- Design stage is over. Design formalized storage elements via existing SAM terminology. Presented a way of mitigating storage element and RLS state uncertainty.
- Current work is focused on adapting SRM Java client into SAM C++ CORBA infrastructure. Code is mostly written but no testing has been done.
- Distinction between data access and data management has been made.
- Time to proof of concept : 1–1.5 month.